STATE OF MARYLAND

DHMH

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April 30, 2010

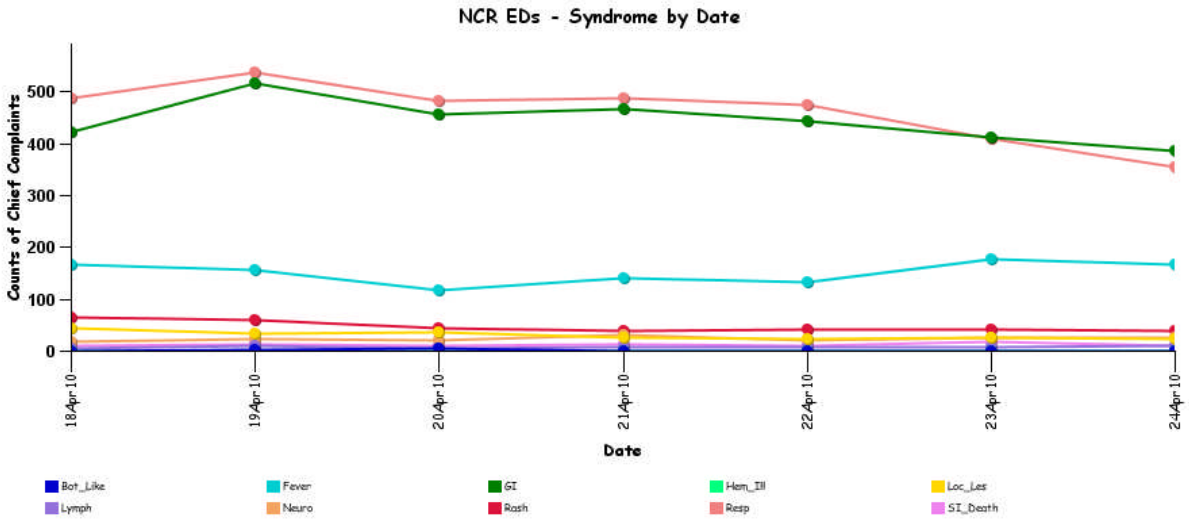
Public Health & Emergency Preparedness Bulletin: # 2010:16
Reporting for the week ending 04/24/10 (MMWR Week #16)

CURRENT HOMELAND SECURITY THREAT LEVELS

National: **Yellow (ELEVATED) *The threat level in the airline sector is Orange (HIGH)**
Maryland: **Yellow (ELEVATED)**

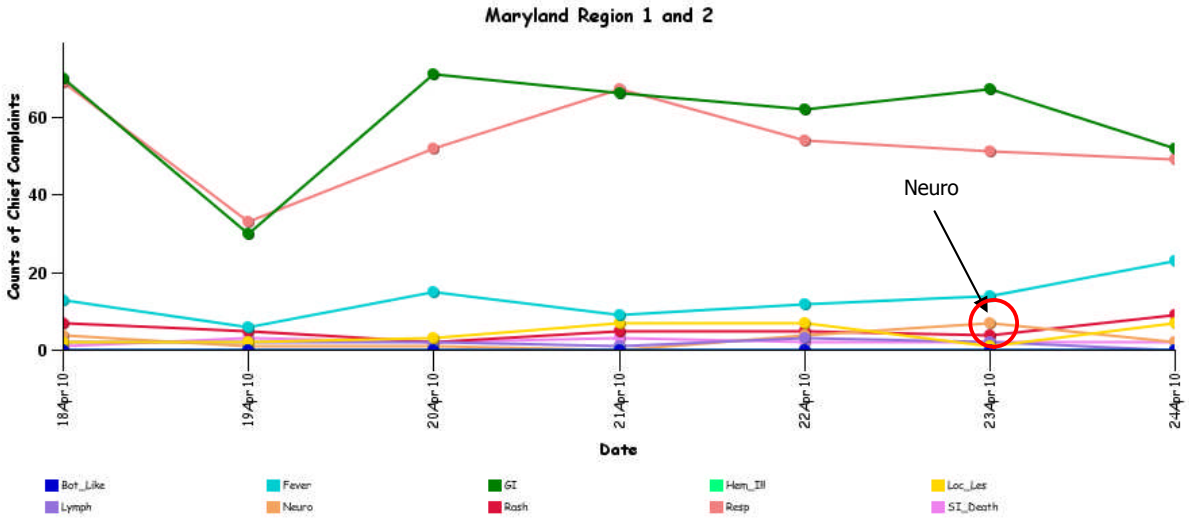
SYNDROMIC SURVEILLANCE REPORTS
ESSENCE (Electronic Surveillance System for the Early Notification of Community-based Epidemics):
Graphical representation is provided for all syndromes, excluding the "Other" category, all age groups, and red alerts are circled.
Note: ESSENCE – ANCR Spring 2006 (v 1.3) now uses syndrome categories consistent with CDC definitions.

Overall, no suspicious patterns of illness were identified. Track backs to the health care facilities yielded no suspicious patterns of illness.

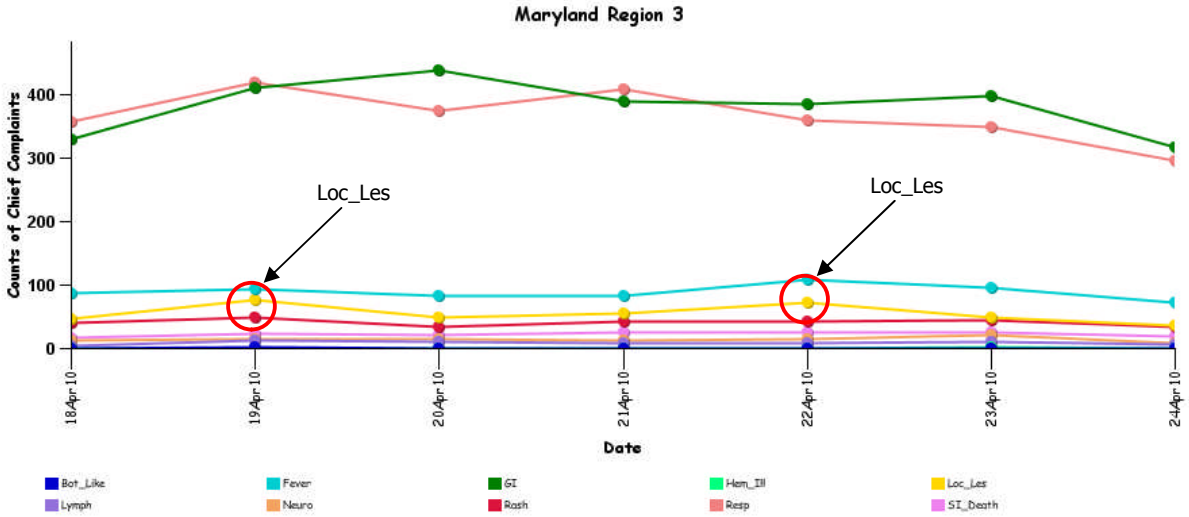


* Includes EDs in all jurisdictions in the NCR (MD, VA, and DC) reporting to ESSENCE

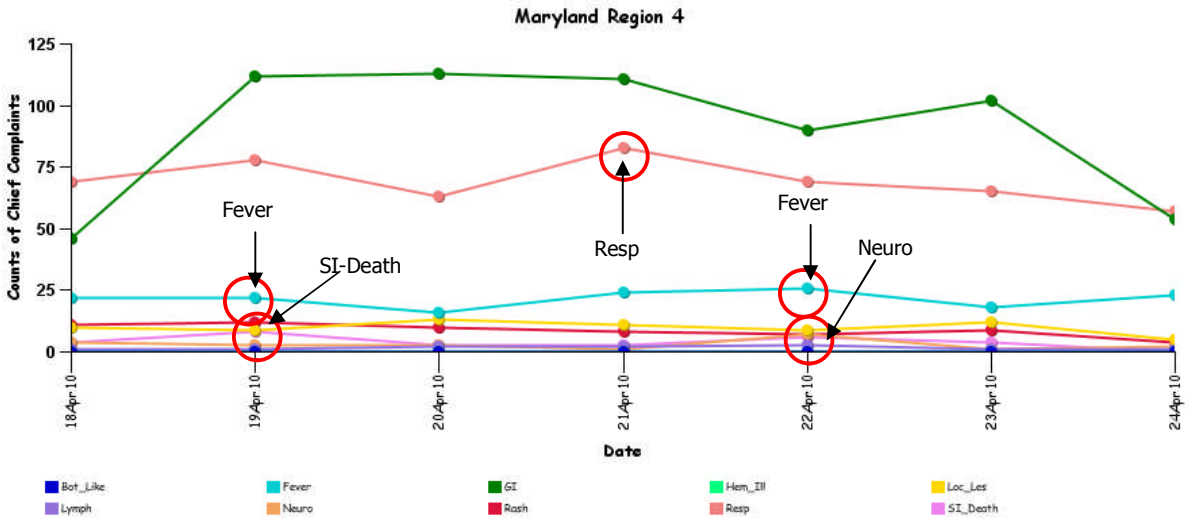
MARYLAND ESSENCE:



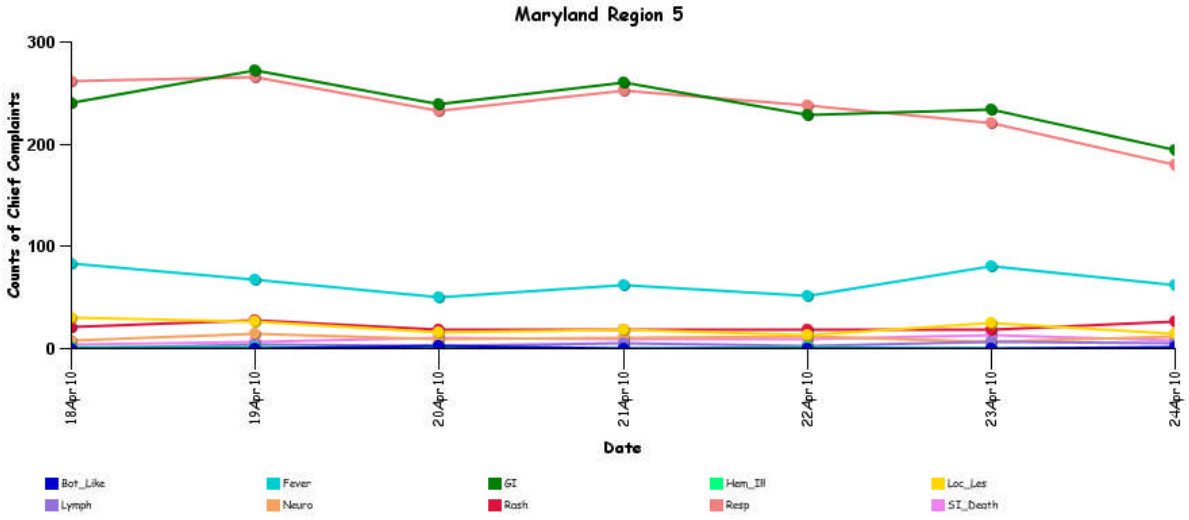
* Region 1 and 2 includes EDs in Allegany, Frederick, Garrett, and Washington counties reporting to ESSENCE



* Region 3 includes EDs in Anne Arundel, Baltimore city, Baltimore, Carroll, Harford, and Howard counties reporting to ESSENCE

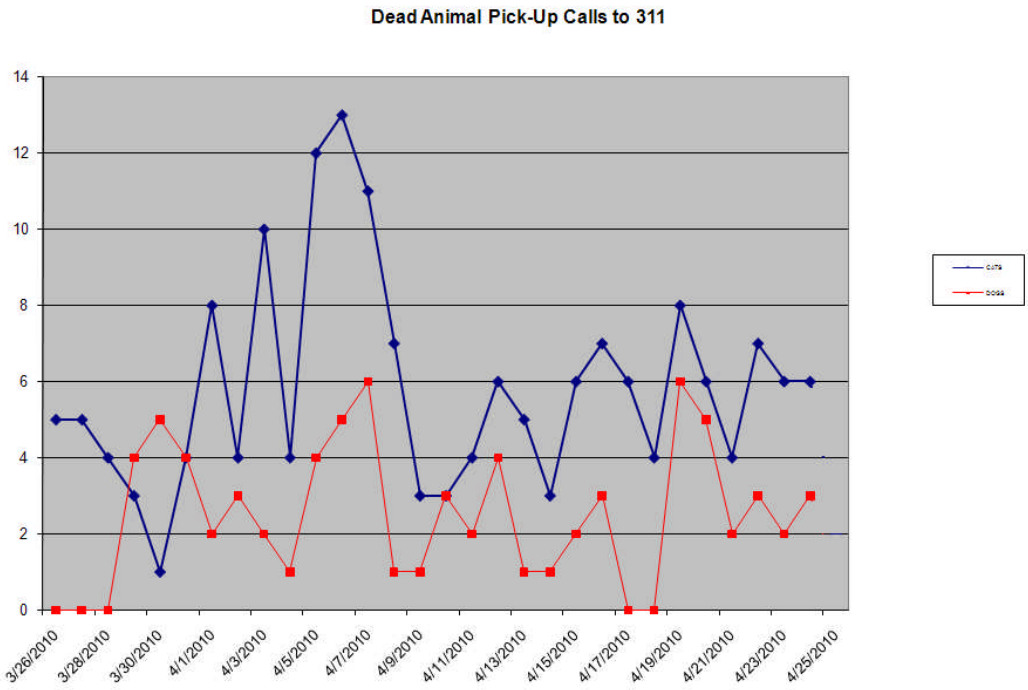


* Region 4 includes EDs in Cecil, Dorchester, Kent, Somerset, Talbot, Wicomico, and Worcester counties reporting to ESSENCE



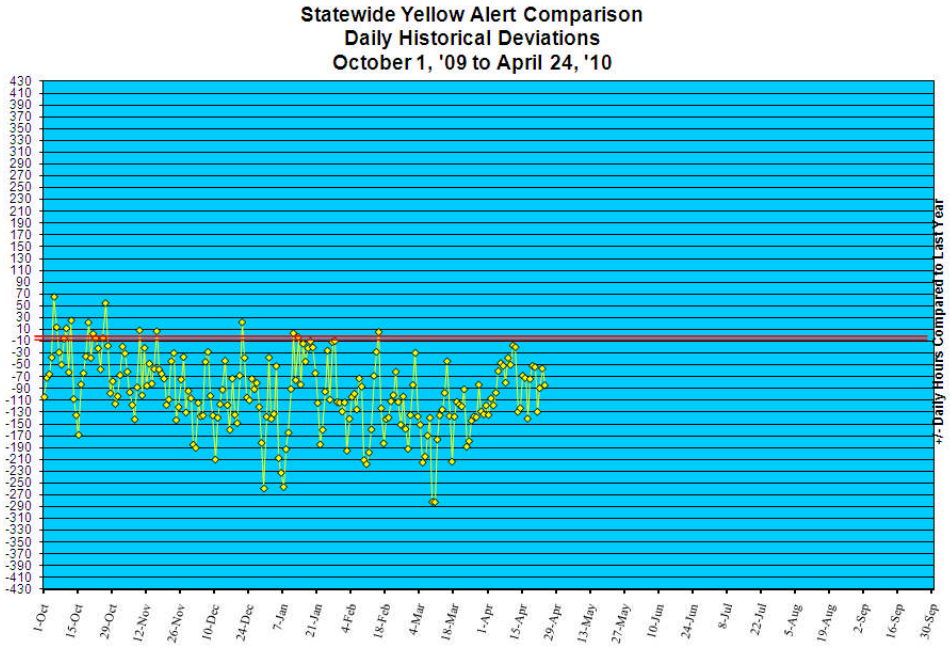
* Region 5 includes EDs in Calvert, Charles, Montgomery, Prince George's, and St. Mary's counties reporting to ESSENCE

BALTIMORE CITY SYNDROMIC SURVEILLANCE PROJECT: No suspicious patterns in the medic calls, ED Syndromic Surveillance and the animal carcass surveillance. Graphical representation is provided for animal carcass surveillance 311 data.



REVIEW OF EMERGENCY DEPARTMENT UTILIZATION

YELLOW ALERT TIMES (ED DIVERSION): The reporting period begins 10/01/09.



REVIEW OF MORTALITY REPORTS

Office of the Chief Medical Examiner: OCME reports no suspicious deaths related to an emerging public health threat for the week.

MARYLAND TOXIDROMIC SURVEILLANCE

Poison Control Surveillance Monthly Update: Investigations of the outliers and alerts observed by the Maryland Poison Center and National Capital Poison Center in March 2010 did not identify any cases of possible public health threats.

REVIEW OF MARYLAND DISEASE SURVEILLANCE FINDINGS

COMMUNICABLE DISEASE SURVEILLANCE CASE REPORTS (confirmed, probable and suspect):

Meningitis:	**Aseptic**	**Meningococcal**
New cases (April 18, April 24, 2010):	08	0
Prior week (April 11, April 17, 2010):	15	0
Week#16, 2009 (April 19- April 25, 2009):	14	0

4 outbreaks were reported to DHMH during MMWR Week 16 (April 18-24, 2010)

3 Gastroenteritis outbreaks:
2 outbreaks of GASTROENTERITIS in Nursing Homes
1 outbreak of GASTROENTERITIS in a Daycare Center

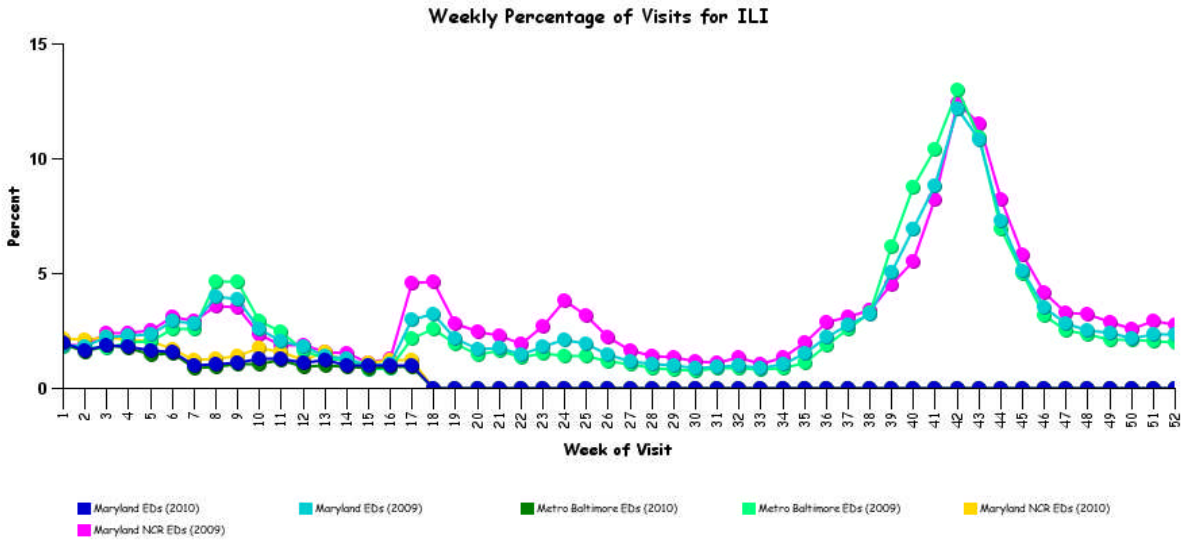
1 Rash illness outbreak:
1 outbreak of CHICKENPOX in a School

MARYLAND INFLUENZA STATUS: Influenza activity in Maryland for Week 16 is SPORADIC.

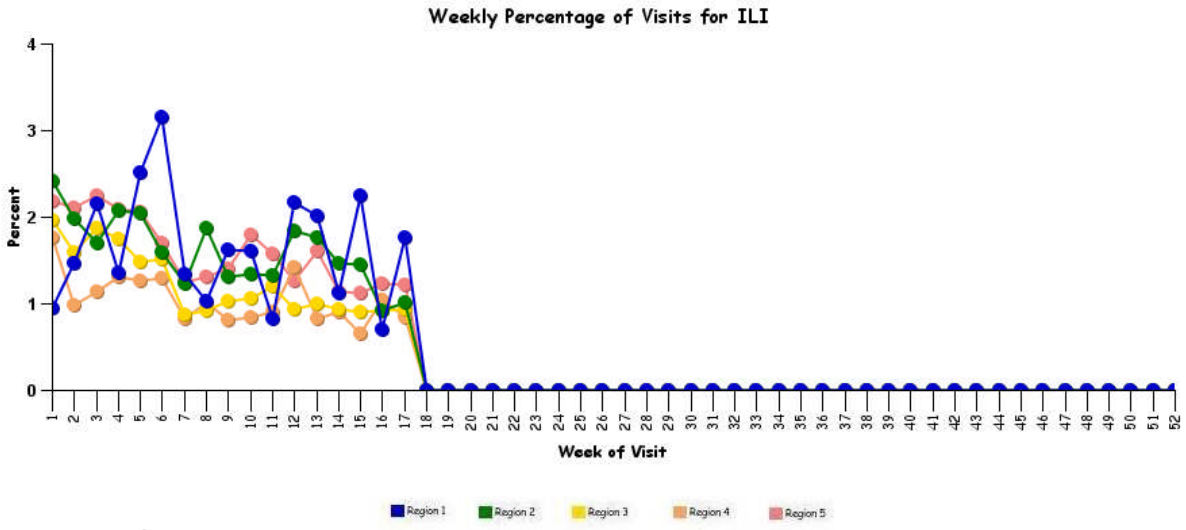
SYNDROMIC SURVEILLANCE FOR INFLUENZA-LIKE ILLNESS

Graphs show the percentage of total weekly Emergency Department patient chief complaints that have one or more ICD9 codes representing provider diagnoses of influenza-like illness. These graphs do not represent confirmed influenza.

Graphs show proportion of total weekly cases seen in a particular syndrome/subsyndrome over the total number of cases seen. Weeks run Sunday through Saturday and the last week shown may be artificially high or low depending on how much data is available for the
week.



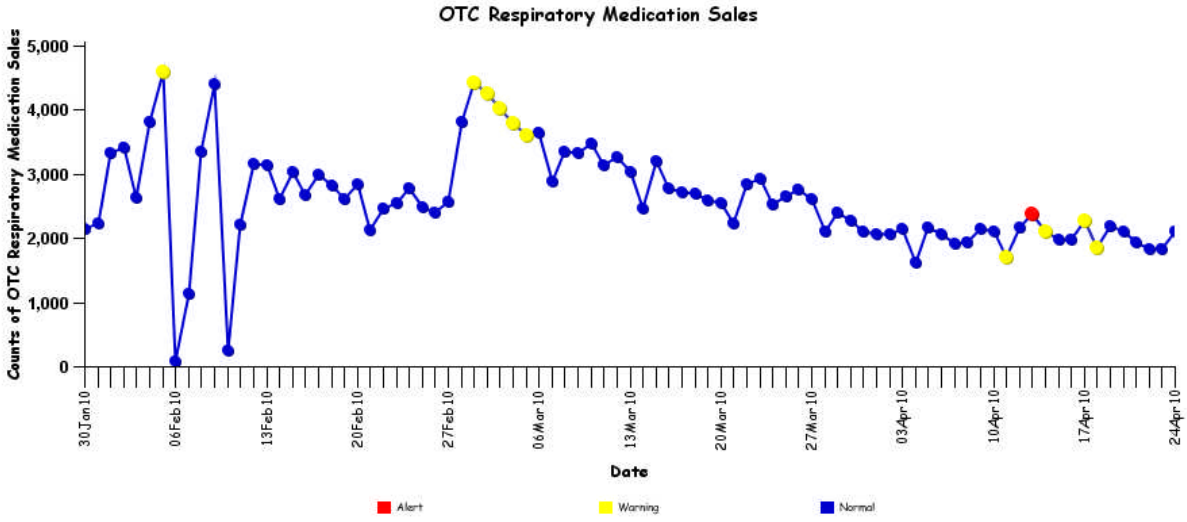
* Includes 2009 and 2010 Maryland ED visits for ILI in Metro Baltimore (Region 3), Maryland NCR (Region 5), and Maryland Total



*Includes 2010 Maryland ED visits for ILI in Region 1, 2, 3, 4, and 5

OVER-THE-COUNTER (OTC) SALES FOR RESPIRATORY MEDICATIONS:

Graph shows the daily number of over-the-counter respiratory medication sales in Maryland at a large pharmacy chain.



PANDEMIC INFLUENZA UPDATE:

WHO Pandemic Influenza Phase: Phase 6: Characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way. Definition of Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

US Pandemic Influenza Stage: Stage 0: New domestic animal outbreak in at-risk country

**More information regarding WHO Pandemic Influenza Phase and US Pandemic Influenza Stage can be found at: http://preparedness.dhmh.maryland.gov/Docs/PandemicInfluenza/PandemicInfluenzaResponseAnnex(Version7.2).pdf

AVIAN INFLUENZA-RELATED REPORTS:

WHO update: As of April 21, 2010, the WHO-confirmed global total of human cases of H5N1 avian influenza virus infection stands at 495, of which 292 have been fatal. Thus, the case fatality rate for human H5N1 is about 59%.

AVIAN INFLUENZA, HUMAN (CAMBODIA): 22 April 2010, A 27 year old man in eastern Cambodia has died of bird flu [avian influenza A(H1N1) virus infection], the country's 1st fatality this year [2010] and its 8th since the virus started to sweep through Asia almost 7 years ago. Cambodia's Health Ministry said in a statement issued jointly on Wed 21 Apr 2010 with the World Health Organization that the man in Prey Veng province had died on Sat 17 Apr 2010. It was the country's 10th human case of the disease. The statement says there have been 494 laboratory-confirmed cases of the disease in 15 countries since 2003, with 293 fatalities. The Cambodian man's death was the 11th worldwide this year [2010]. The Health Ministry said it was investigating the case, and stepping up a campaign for preventative health measures.

AVIAN INFLUENZA, HUMAN (VIET NAM): 22 April 2010, The Ministry of Health has reported 2 new confirmed human cases of A (H5N1) avian influenza infection on 6 and 9 Apr 2010. These cases were confirmed at the National Institute for Hygiene and Epidemiology. The 1st case is a 22 year old man from Nhu Co commune, Bac Kan province. He developed symptoms on 28 Mar 2010 and was transferred to the National Hospital of Tropical Diseases in severe condition. Confirmatory test results for influenza A (H5) were obtained on 3 Apr 2010. The initial epidemiological investigations show that there were sick/dead poultry at the patient's home and in the surrounding areas. The 2nd case is a 2 year old girl residing in Cho Moi district, Bac Kan province. She developed symptoms on 2 Apr 2010. On 4 Apr 2010, she was transferred to Cho Moi District Hospital for treatment where she is in a stable condition. Confirmatory test results for influenza A (H5) were obtained on 7 Apr 2010. The initial epidemiological investigations show that there were sick/dead poultry at the patient's home and in the surrounding areas. The patient's family slaughtered the sick poultry to eat. There is no epidemiological link between these 2 cases that would indicate human-to-human transmission. Of the 119 cases confirmed to date in Viet Nam, 59 have been fatal.

AVIAN INLFUENZA (INDONESIA): 21 April 2010, A 4 year old girl from Lubuk Basung, Kabupaten Agam, West Sumatera has been treated for suspected bird flu (avian influenza A (H5N1) virus infection) at the Central Public Hospital (RSUP) M Djamil in Padang, West Sumatera [Sumatra]. "The patient is a 4 year old child. She was transferred to the M Djamil hospital on Tuesday [20 Apr 2010] and now is being treated in the avian influenza isolation unit," said the medical treatment director of the M Djamil hospital, Dr Ira Yanti. The patient is still under observation due to high fever and shortness of breath. According to patient's parent, his daughter developed fever 3 days earlier, and then was brought to the public health center. Her temperature fell after taking medicine, but then returned the next day. Later she was rushed to the regional hospital in Lubuk Basung. The hospital then referred the patient to M Djamil hospital in Padang. The patient was reported to have contact history with a dead chicken close to her house. The dead chicken has tested positive for avian influenza A (H5N1) virus infection by a rapid test. A blood sample from the patient has been sent to the Research and Development Laboratory of Ministry of Health, and the result is expected within a week. M Djamil hospital has treated 2 patients with suspected bird flu in a period of 4 months. Since the appearance of avian influenza A (H5N1) in West Sumatera, M Djamil hospital has treated a total of 80 patients with suspected bird flu, 4 of whom have tested positive for H5N1, and one of whom has died.

H1N1 INFLUENZA (Swine Flu):

INFLUENZA PANDEMIC (H1N1), D222G MUTATION: 22 April 2010, This data has been summarised in a recent World Health Organization (WHO) review, which reported that the overall prevalence of D222G was less than 1.8 per cent in contrast to a rate of 7.1 per cent in fatal cases. The WHO paper also reports on the occurrence of other mutations at this amino acid, D222E and D222N, although their significance is unclear. A group in Hong Kong have also analysed this amino acid in severe and non-severe cases of pandemic influenza A(H1N1). In this study, 9 (4.1 per cent) of 219 severe or fatal cases of pandemic influenza A(H1N1) had the D222G mutation, in contrast to 0 of 239 non-severe cases. We sequenced the HA1 subunit of the HA gene from a number of west of Scotland cases, both community cases and severely ill. Furthermore, we subdivided the severely ill into those who had died and those who recovered after hospitalisation. We found an increased incidence of D222G in those patients who died (2/23; 8.7 per cent) compared with both community and hospitalised patients (0/35; 0 per cent). We also detected an increased incidence

(2/32; 6.2 per cent cf 0/26; 0 per cent) of D222N (aspartic acid to asparigine) in severely ill patients and those who had died. The significance of this mutation is unclear. There was a low level of D222E (aspartic acid to glutamic acid) present in both severely ill and community cases with no significant difference between the 2. Interestingly, in one of the patients who died and had the D222G mutation, the original sequence had a mixed base in the D222 codon giving D222D/G. On resequencing 2 more samples from this patient, we obtained a pure D222G on one occasion and a pure wildtype D222 on the other, showing that this patient had a mixed population of virus.

Resources:

http://www.cdc.gov/h1n1flu/

http://www.dhmh.maryland.gov/swineflu/

NATIONAL DISEASE REPORTS

ANTHRAX, HUMAN (NEW HAMPSHIRE): 19 April 2010, The woman who came down with anthrax after taking part in a drumming circle in December [2009] has recovered and is doing fine, while the building where the infection took place has been cleaned and reopened to the public -- but even so, the event remains as inexplicable as ever. "It is a mystery," said Dr Jodie Dionne-Odom, deputy New Hampshire state epidemiologist. "We really don't know why it happened." The woman, whose identity hasn't been released, became critically ill some days after taking part in a drum circle [on 4 Dec 2009] at the United Campus Ministry building in Durham, an event that drew some 60 people. She is now home and has returned to drumming, Dionne-Odom said. The woman apparently inhaled anthrax [in spore form] that had been carried into the room on the animal hide on one of the drums, and which was released into the air when the drum was beaten. Anthrax spores were later found on 2 drums and on various items around the room. It's unusual for a person to be infected with anthrax in the US. This case drew enormous attention, however, because the woman came down with gastrointestinal anthrax rather than inhaled anthrax, which made her unique in American medical history. [Well, no. Gastroenteric anthrax is infrequent in the US but not unknown. Anthrax is a disease caused by a bacterium that can infect people through the lungs, intestines, or even skin. Most cases are associated with cattle handling or processing, but it has occasionally been linked to imported drums made with animal hides, particularly from West Africa. [In the latter instance] anthrax is usually contracted by people who inhale the bacteria, which lodges in their lungs. It leads to cold-like symptoms that quickly worsen and produce mortality rates of more than 80 per cent. Much more rarely, anthrax bacteria lodge in the intestines after a person eats meat contaminated with anthrax spores. The resulting disease is also fatal far more often than not. The Durham case was unique because the woman inhaled the spore rather than eating it, but came down with gastrointestinal anthrax. Despite 5 months of medical forensics, it's still unclear why this happened, other than sheer bad luck. The woman has no genetic or medical reason to be susceptible to gastrointestinal anthrax, Dionne-Odom said. Further, the bacterium spore was "plain old garden variety" anthrax, "not a hyper-virulent strain" that might have caused the unusual circumstances. Officials at the Centers for Disease Control and Prevention did genetic typing on the spore in an attempt to pin down the spore's country of origin, but it was a type known as A1.a, found all over the world, Dionne-Odom said. Officials still believe drumming caused the spore to be aerosolized, or broken up into a small piece that floated in the air and then somehow infected the woman. Beyond that, the case is a mystery, although Dionne-Odom said it was possible that further CDC tests would find some underlying cause for the case. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

PLAGUE, CANINE (NEW MEXICO): 18 April 2010, A case of animal plague has been confirmed in eastern New Mexico and officials say human cases could soon follow. The New Mexico Department of Health says lab reports confirmed a case of plague in a dog near San Jon in Quay County this week [week of 12 Apr 2010]. They say the virus is transmitted to humans through the fleas on rodents, rabbits, and pets. This is the 3rd case this year [2010] involving animals in New Mexico. In all cases, the animals have recovered. (Plague is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

INTERNATIONAL DISEASE REPORTS

ANTHRAX, BOVINE (ARGENTINA): 24 April 2010, On 14 Apr 2010 in Sierras Bayas, county of Olavarria, Buenos Aires province, a cow died suddenly with a bloody extravasation from its mouth, vagina, and anus. It was in a herd of some 100 animals. The affected animal and the herd had not been vaccinated against anthrax. Laboratorio Azul confirmed the presence of _Bacillus anthracis_ and it was sensitive to the following antibiotics: penicillin, ampicillin, tetracycline, ciprofloxacin, florfenicol, and tilmicosin. The carcass was disposed of in the standard fashion, covered with lime and a heavy duty plastic sheet, weighed down on the margins. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, LION (INDIA): 24 April 2010, Veterinary officials buried the 27 year old lioness named Raani in an 8 foot [2.4 metre] long trench after detecting anthrax [bacilli] in the animal's body, the director of the Zoological Garden, Hyderabad, Manzoor Bhurt, said on Wednesday [21 Apr 2010]. The authorities concerned decided to abandon the postmortem examination of Raani and buried her body expeditiously after the lioness died on Monday, Manzoor Bhurt said. Discovery of deadly anthrax [bacteria] in the blood sample of the lioness poses a threat that the same virus may be present in other animals of the Raani Bagh Zoological Garden. Earlier, the lioness, who developed acute wounds in legs due to nail infection, had failed to respond to medicines prescribed by the veterinary specialists of Karachi. After death, the body of Raani was sent to Central Veterinary Diagnostic Laboratory, Tando Jam, for postmortem. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

JAPANESE ENCEPHALITIS (INDIA): 22 April 2010 A positive case of Japanese encephalitis has been reported from Bhavani Nagar, Talabkatta, district health authorities on Wednesday [21 Apr 2010] confirmed. An 8 month old baby girl was diagnosed with JE and was treated at Niloufer hospital. The baby girl has suffered partial paralysis to the right side of her body, authorities said. Japanese encephalitis is an ailment [caused by] a virus transmitted by _Culex_ mosquitoes causing inflammation of the membranes in human brain. Health authorities pointed out that the mosquitoes are getting infected with the JE virus from pigs, which are present in large numbers in Talabkatta area. Usually, according to authorities, JE virus [JEV] reproduces in pigs and mosquitoes get infected when they feed and take blood meals from pigs. The JE virus spills over to the community when the infected mosquito starts biting human population. (Viral Encephalitis are listed in Category B on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, HUMAN, BOVINE (BANGLADESH): 21 April 2010, A total of 11 suspected patients of rare [sic] disease anthrax will be sent to the Institute of Epidemiology, Disease Control and Research (IEDCR) in Mohakhali in Dhaka today [21 Apr 2010] to undergo tests there. All the patients were attacked with the disease at Gala village in Ghatail upazila [sub district, in Tangail district, Dhaka division]. Villagers said [that the owner] slaughtered one of his sick cows, processed the meat with the help of his family members and several neighbours on [6 Apr 2010], and distributed the meat among his relatives and others. After 24 hours, 11 people including women and children who did the job of cutting and washing the meat, suffered infections on different parts of their bodies including hands and legs followed by itches and pain, local people said.The infected people are [aged 60, 45, 42, 40, 28, 22, 17, 14, 13, 12, and 7.] They went to Ghatail upazila health complex for treatment and doctors there gave them antibiotic, presuming the disease was an ordinary infection. The patients, however, became anxious as the infections were not cured after 2 weeks of treatment, sources said. Being informed, a team of doctors visited the patients at the village and suspected the disease as anthrax, said Mohammad Emranul Alam, upazila health and family planning officer in Ghatail. The patients will undergo several tests at IEDCR to diagnose the disease, said Tangail civil surgeon Dr Abdul Basit yesterday [20 Apr 2010]. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

ANTHRAX, HUMAN (UNITED KINGDOM): 20 April 2010, Since December 2009, 31 cases of anthrax infection have been confirmed in heroin users in Scotland, with 11 deaths. All injection routes have been implicated, but smoking or snorting may also present a significant risk. Here we highlight salient features to assist other clinicians with diagnosis and management. Patients have not presented with classic anthrax (cutaneous, inhalational, or gastrointestinal) but represent a new pattern, previously described as injectional. Presentation may vary. Three patients presented with intracranial or subarachnoid haemorrhage with anthrax bacilli in their blood. All died rapidly -- that is, in the late stages of disseminated anthrax. Gastrointestinal symptoms occasionally predominated, probably reflecting disseminated disease. Most have presented as atypical, but severe, soft tissue infections, with significant soft-tissue oedema (one inducing compartment syndrome). Findings differ from classic necrotising fasciitis or classic cutaneous anthrax, and can resent as variants of cellulitis or abscess. Patients can present with vague prodromal symptoms or excessive bruising at the index injection site, which may be difficult to identify. Despite appearing very unwell, tachycardic, and peripherally shut down, they maintain an almost normal blood pressure, respiratory function, oxygenation, and acid-base, and are lucid. Systemic features might otherwise be non-specific. Haematology and biochemistry are also non-specific; typically, the white-cell count, C-reactive protein, and lactate are not grossly abnormal. A decline in platelet count may predict clinical deterioration, even if remaining within the normal range. Coagulopathy may develop, with significant bleeding. In cases of severe soft tissue infection, fluid requirements may exceed 10L per 24h. Surgical debridement removes the nidus of infection and provides diagnostic material (Gram stain, culture, and PCR). Characteristic surgical features include profound capillary bleeding, necrosis of predominantly the superficial rather than deep fat, oedema not fasciolysis, and the finding of needle tracks containing necrotic material. We recommend examining the whole body at least every 12 h. Florid tense oedema has been characteristic of disease severity and of late progression. Subsequent distant foci have been noted on other body sites within 48 h of initial debridement (injection sites with oedema, skin reaction, and associated masses). In many cases the illness has been biphasic. After resuscitation and surgery, the patient may stabilise, or seem to recover, but then decline 24-72 h later. Decline may be rapid, and progress to septic shock requiring cardiovascular support and mechanical ventilation, and then to renal failure. Septic shock has been resistant to both inotropic and vasoconstrictor therapy with adrenaline, noradrenaline and vasopressin. Large pleural effusions and ascites may develop. These are a reservoir of anthrax toxin and must be drained. If preterminal deterioration subsequently occurs, it is rapid and profoundly unresponsive to standard ventilatory, cardiovascular, and renal support interventions. (Anthrax is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

CRIMEAN-CONGO HEMORRHAGIC FEVER (KAZAKHSTAN): 19 April 2010, Two patients recently died of Crimean-Congo hemorrhagic fever in the Southern Kazakh Oblast, [according to] the Ministry for Emergencies press service, Kazakhstan Today reported on Sat 17 Apr 2010. A 21 year old woman died on Thu 15 Apr 2010 in the perinatal treatment centre in [the city of] Turkestan. A 36 year old man died on Thu 15 Apr 2010 in a hospital in the Kazgurt District. The fever is transmitted by ticks and is found in the former Soviet Union, including Central Asia, according to the US Centers for Disease Control and Prevention. (Viral Hemorrhagic Fever is listed in Category A on the CDC list of Critical Biological Agents) *Non-suspect case

OTHER RESOURCES AND ARTICLES OF INTEREST

More information concerning Public Health and Emergency Preparedness can be found at the Office of Preparedness and Response website: http://preparedness.dhmh.maryland.gov/

Maryland's Resident Influenza Tracking System: www.tinyurl.com/flu-enroll

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NOTE: This weekly review is a compilation of data from various surveillance systems, interpreted with a focus on a potential BT event. It is not meant to be inclusive of all epidemiology data available, nor is it meant to imply that every activity reported is a definitive BT event. International reports of outbreaks due to organisms on the CDC Critical Biological Agent list will also be reported. While not "secure", please handle this information in a professional manner. Please feel free to distribute within your organization, as you feel appropriate, to other professional staff involved in emergency preparedness and infection control.

For questions about the content of this review or if you have received this and do not wish to receive these weekly notices, please e-mail me. If you have information that is pertinent to this notification process, please send it to me to be included in the routine report.

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